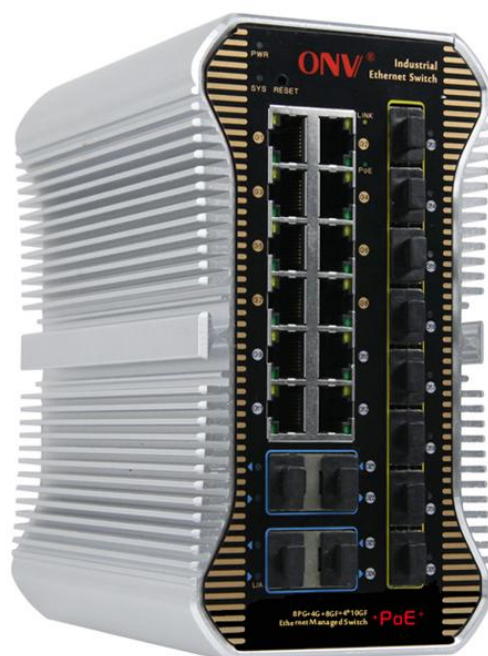


## Product Datasheet

# 24-port 10G Uplink Managed Industrial PoE Switch

(ONV-IPS36248PFM)



## OVERVIEW

The ONV-IPS36248PFM is a 10G uplink managed industrial PoE switch independently developed by ONV. It has 12\*10/100/1000Base-T adaptive RJ45 ports and 8\*100/1000Base-X SFP fiber ports and 4\*1/10G uplink SFP+ fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard and the single-port PoE power up to 30W. As a PoE power supply device, it can automatically detect and recognize power-receiving devices that meet the standard and supply power through the network cable. It can supply power to PoE terminal equipment such as wireless AP, IP camera, VoIP, and industrial sensors through the network cable. It also meets the network environment that needs a high-density PoE power supply. It is suitable for intelligent transportation, rail transit, power industry, mining, petroleum, and industrial scenes such as shipping, metallurgy, and green energy construction forming a cost-effective, stable, and reliable communication network.

The ONV-IPS36248PFM has L2+ network management functions, supports IPV4/ IPV6

management, static routing full-line speed forwarding, complete security protection mechanism, perfect ACL/QoS strategy, and rich VLAN functions for easy management and maintenance. It has leading ring network technology, supports a variety of industrial-grade redundant ring network protocols, and all ports can form rings. It supports chain, star, double star, ring, tangent ring, intersecting ring, coupled ring, and the ring network recovery time within 20ms. It has high reliability, high security, and high manageability to ensure reliable transmission of key data. It supports remote management and cooperates with the ONV-NMS network management platform for cluster management to achieve full-process blind spot network management.

## FEATURE

### ■ Gigabit port, uplink 1/10G SFP+ fiber port

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE 802.3x and half-duplex based on Backpressure.
- ◇ Support Gigabit RJ45 port and 1/10G uplink SFP+ fiber port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

### ■ Smart PoE power supply

- ◇ PoE network management, realize PoE port power allocation, priority setting, port power status viewing, time scheduling, etc.
- ◇ Comply with IEEE 802.3 af/at PoE standard, automatically identify PoE devices for power supply, and not damage non-PoE devices.
- ◇ 8\*10/100/1000Base-T RJ45 ports support PoE power, meeting the PoE power requirements of security monitoring, industrial automation systems, wireless coverage and other scenarios.

### ■ Security

- ◇ Port isolation and storm control.
- ◇ IP+MAC+port+VLAN quadruple flexible combination binding function.
- ◇ 802.1X authentication provides authentication functions for LAN computers and

controls the authorization status of controlled ports according to the authentication results.

### ■ Strong business processing capability

- ◇ Support industrial ERPS ring network and STP/ RSTP/ MSTP to eliminate layer 2 loops and realize link backup.
- ◇ Support IEEE802.1Q VLAN, Users can flexibly divide VLAN, Voice VLAN, and QinQ configuration according to their needs.
- ◇ Support static and dynamic aggregation to effectively increase link bandwidth, realize load balancing, link backup, and improve link reliability.
- ◇ Support QoS, port-based, 802.1P-based, and DSCP-based three priority modes and four queue scheduling algorithms: Equ, SP, WRR, and SP+WRR.
- ◇ Support ACL to filter data packets by configuring matching rule processing operations and time permissions, and provide flexible security access control policies.
- ◇ Support IGMP V1/V2/V3 multicast protocol, IGMP Snooping meets multi-terminal high-definition video surveillance and video conference access requirements.

### ■ Stable and reliable

- ◇ CCC, CE, FCC, and RoHS.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, SYS, Link, and PoE.
- ◇ Low power consumption, aluminum alloy housing, and excellent heat dissipation to ensure the stable operation of the switch.

### ■ Easy O&M management

- ◇ Support CPU monitoring, memory monitoring, Ping detection, and cable length detection.
- ◇ HTTPS, SSLV3, SSHV1/V2, and other encryption methods are more secure in management.
- ◇ RMON, system log, and port traffic statistics are convenient for network optimization and transformation.

- ◇ LLDP is convenient for the network management system to query and judge the communication status of the link.
- ◇ Support diverse management and maintenance methods such as Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3), Telnet, etc.

## TECHNICAL SPECIFICATION

Model	ONV-IPS36248PFM
<b>Interface Characteristics</b>	
Fixed Port	Power off alarm switch port (FAULT) 1*Console RS232 port (115200, N, 8,1) 4*1/10G uplink SFP+ fiber ports (Data) 8*10/100/1000Base-T PoE ports (Data/Power) 4*10/100/1000Base-T uplink RJ45 ports (Data) 8*100/1000Base-X uplink SFP fiber ports (Data) 2 set V+, V- redundant DC power ports (6P industrial Phoenix terminal)
Ethernet Port	Port 1-12 can support 10/100/1000Base-T auto-sensing, full/ half duplex MDI/ MDI-X self-adaption
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP (≤100 meters) 100BASE-TX: Cat5 or later UTP (≤100 meters) 1000BASE-T: Cat5e or later UTP (≤100 meters)
Optical Fiber Port	1/10G SFP+ optical fiber ports, default no include optical module (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)
Optical Cable/ Distance	Multi-mode: 850nm/ 0-550m, 0-300m(10G), Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.
<b>Chip Parameter</b>	
Network Management Type	L2+
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX,

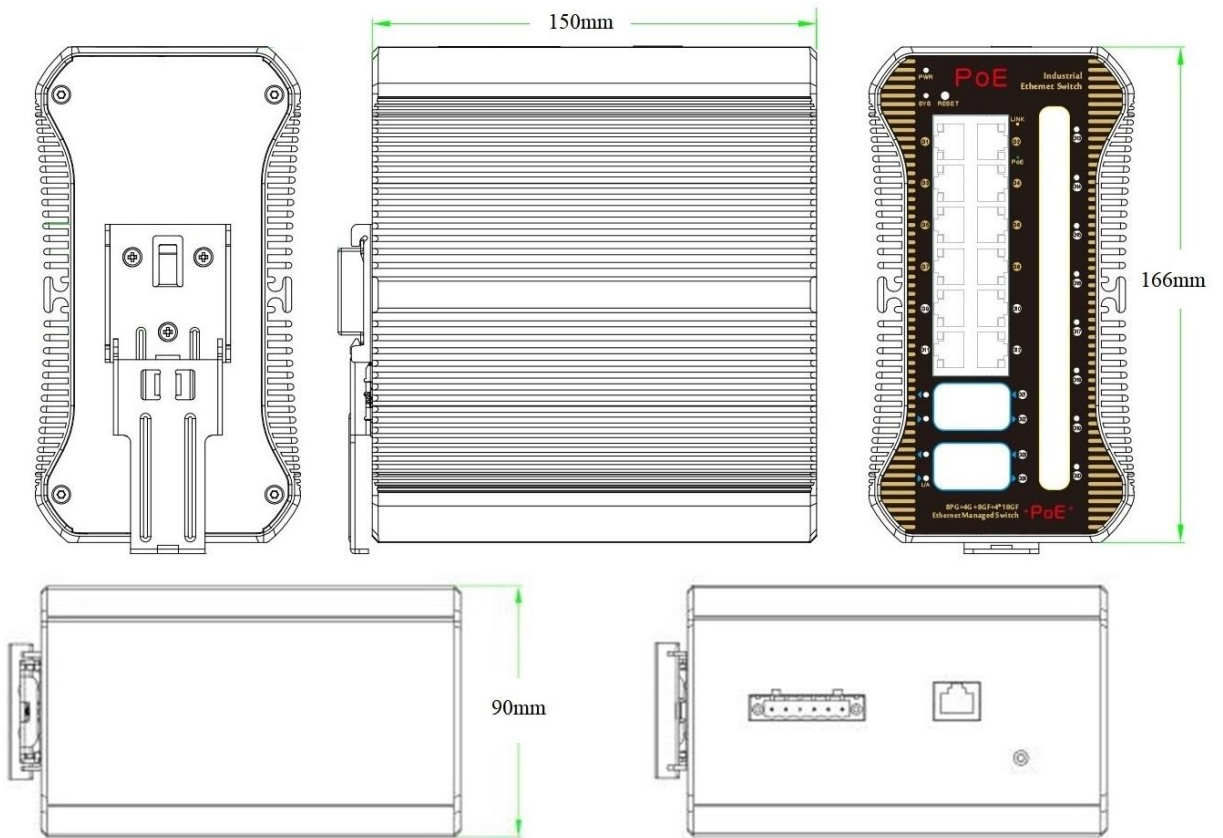
	IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3ae 10GBase-LR/SR, IEEE 802.3x
Forwarding Mode	Store and Forward (Full wire speed)
Switching Capacity	176Gbps (non-blocking)
Forwarding Rate@64byte	89.28Mpps
CPU	500MHz
DRAM	2G
FLASH	128M
MAC	32K
Buffer Memory	32M
Jumbo Frame	9.6K
LED Indicator	Power: PWR (Green), System: SYS (Green), Fiber Port: L/A (Green), PoE: PoE (Green), Network: Link (Yellow)
Reset Switch	Yes, press and hold the switch for 10 seconds and release it to restore the factory settings
<b>PoE&amp; Power Supply</b>	
PoE Port	Port 1-8
PoE Management	PoE power supply total power limit configuration Power delay start, PoE work, and time scheduling Port PoE working status display, Port PoE output priority configuration Port PoE output power distribution, PoE on/off, af/at power distribution
Power Supply Pin	1/2(+)/3/6 (-)
Max Power Per Port	30W, IEEE 802.3 af/at
Power Consumption	Standby<15W, full load af<120W, at<240W
Input Voltage/ Interface	DC48-57V, 6P industrial Phoenix terminal, support anti-reverse protection.
Power Supply	No, optional 48V/120W or 48V/240W industrial power supply
<b>Physical Parameter</b>	
Operation Temp/ Humidity	-40~+80°C, 5%~90% RH Non condensing
Storage Temp/ Humidity	-40~+85°C, 5%~95% RH Non condensing

Dimension (L*W*H)	166*150*90mm
Net /Gross Weight	2.1kg/ 2.3kg
Installation	Desktop, 35mm DIN Rail
<b>Certification&amp; Warranty</b>	
Lightning Protection	IEC61000-4-3 (RS):10V/m (80~1000MHz)
	FCC Part 15/CISPR22 (EN55022): Class A
	IEC61000-6-2 (Common Industrial Standard)
	IEC61000-4-9 (Pulsed magnet field): 1000A/m
	IEC61000-4-10 (Damped oscillation): 30A/m 1MHz
	IEC61000-4-12/18 (Shockwave): CM 2.5kV, DM 1kV
	Protection level: IP40, Lightning protection: 6KV 8/20us
	IEC61000-4-4(EFT): Power cable: ±4kV, data cable: ±2kV
	IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s
	IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge
IEC61000-4-6 (Radio frequency transmission): 10V(150kHz~80MHz)	
IEC61000-4-8 (Power frequency magnetic field): 100A/m, 1000A/m, 1s-3s	
IEC61000-4-5 (Surge): Power cable: CM±4kV/ DM±2kV, data cable: ±4kV	
Mechanical Properties	IEC60068-2-6 (Anti Vibration), IEC60068-2-27 (Anti Shock), IEC60068-2-32 (Free Fall)
Certification	CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class A, RoHS
Warranty	5 years, lifelong maintenance.
<b>Network Management Feature</b>	
Interface	Port green Ethernet Energy-saving setting
	Broadcast storm control based on port speed
	Port temperature protection setting, IEEE 802.3x flow control (Full-duplex)
	The speed limit of the message flow in the access port, mini particle size is 64Kbps.
L3 Feature	ARP protocol max 1024 entries
	Static routing/ default routing max 128 entries

	<p>L2+ network management, IPV4/IPV6 dual stack management</p> <p>L3 routing and forwarding, and communication between different network segments and different VLAN</p>
VLAN	<p>Access, Trunk, and Hybrid port configurations</p> <p>Port-based VLAN (4K), IEEE802.1q, QinQ configuration</p> <p>Voice VLAN, Protocol-based VLAN, MAC address-based VLAN</p>
Port Aggregation	<p>LACP, Static aggregation, Max 12 aggregation groups and 8 ports per group.</p>
Spanning Tree	<p>STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)</p>
Ring Network Protocol	<p>G.8032 (ERPS), Recovery time less than 20ms. 250 Ring at most, Max 250 devices per ring.</p>
Multicast	<p>MLD Snooping, Multicast VLAN, IGMP Snooping v1/v2/v3, Max 1024 multicast groups, Fast log out</p>
Port Mirroring	<p>Bidirectional data mirroring based on port</p>
QoS	<p>Flow-based redirection, Flow-based rate limiting</p> <p>Flow-based packet filtering, Priority Mark/Remark</p> <p>8*Output queues of each port, 802.1p/ DSCP priority mapping</p> <p>Queue Scheduling Algorithm (SP, WRR, SP+WRR), Diff-Serv QoS</p>
ACL	<p>Port-based Issuing ACL, ACL based on port and VLAN</p> <p>L2 to L4 packet filtering, matching first 80 bytes message. Provide ACL based on MAC, Destination MAC address, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port, TCP/UDP Port Range, and VLAN, etc.</p>
Security	<p>SSH 2.0, SSL, Port isolation, ARP message speed limit</p> <p>User hierarchical management and password protection</p> <p>AAA&amp; RADIUS&amp; TACACS+ certification, MAC learning limit</p> <p>IEEE802.1X &amp; MAC address authentication, ARP inspection</p> <p>Broadcast storm control, Backup for host datum, Mac black holes</p> <p>IP-MAC-VLAN-Port binding, Anti-DoS attack, IP source protection</p>
DHCP	<p>DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay</p>

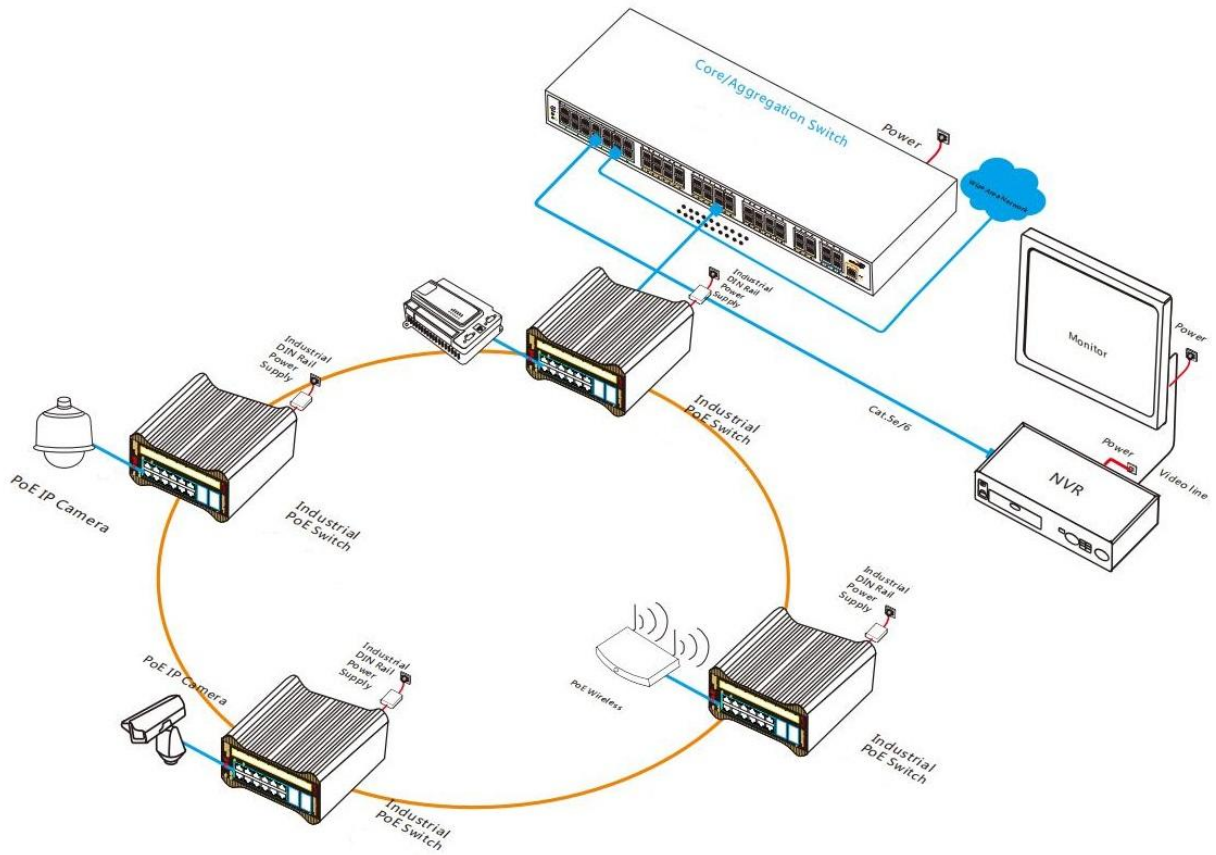
<p>Management</p>	<p>CPU real-time utilization status view, SNMP V1/V2/V3</p> <p>ONV-NMS platform cluster management (LLDP+SNMP)</p> <p>Console/ AUX Modem/ Telnet/ SSH2.0, CLI configuration</p> <p>Cable length status detection, NTP clock, One-key recovery, LLDP</p> <p>FTP, TFTP, Xmodem, SFTP file upload and download management</p> <p>Ping detection, System work log, Web network management (HTTPS)</p>
<p>System</p>	<p>Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Cat5 and above Ethernet cable</p> <p>TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, Mac OS X) installed on each computer in the network</p> <p>Cat5 and above Ethernet cable</p>

## DIMENSION





## APPLICATION



## ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS36248PFM	L2+ managed industrial PoE switch with 12*10/100/1000M RJ45 ports and 8*100/1000M uplink SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.	120W/240W

**Note:** The optical module and power supply are not included and need to be purchased.

## PACKING LIST

	Content	Qty	Unit
Packing List	24-port 10G uplink managed industrial PoE switch	1	Set
	RJ45-DB9 Adapter Cable	1	PC
	User Guide	1	PC
	Warranty Card and Certificate of Conformity	1	PC

## OPTICAL MODULE

Product	Model	Description	Unit
1.25G Optical Module	2630-G	Industrial SFP optical module, 1.25G multi-mode dual fiber 850nm, transmission distance: 550m, LC interface. supports DDM function and hot plugging.	PC
	2632-G	Industrial SFP optical module, 1.25G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	2612-T-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	2613-R-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	2612-T-SC-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	PC
	2613-R-SC-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	PC

10G Optical Module	6630-G	Industrial SFP+ optical module, 10G multi-mode dual fiber 850nm, transmission distance: 300m, LC interface. supports DDM function and hot plugging.	PC
	7832-G	Industrial SFP+ optical module, 10G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	7832-33-G	Industrial SFP+ optical module, 10G single-mode single fiber TX1330nm/ RX1270nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	7832-27-G	Industrial SFP+ optical module, 10G single-mode single fiber TX1270nm/ RX1330nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC

## POWER SUPPLY

Product	Model	Description	Unit
120W DIN Rail Industrial Power Supply	GWS-DP120-48	DIN Rail 120W single set of output power supply Input Voltage: AC100V~240V 50-60Hz, 2.3A Output Voltage: DC48V, 2.5A Operation Temperature: -40°C to +70°C	PC
240W DIN Rail Industrial Power Supply	GWS-DP240-48	DIN Rail 240W single set of output power supply Input Voltage: AC100V~240V 50-60Hz, 3.0A Output Voltage: DC48V, 5.0A Operation Temperature: -40°C to +70°C	PC

## RELATED PRODUCT

Model	Description
ONV-IPS33108PFM	L2+ managed industrial PoE switch with 10*10/100/1000M RJ45 ports and 2*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE

	802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
ONV-IPS33148PFM	L2+ managed industrial PoE switch with 10*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
ONV-IPS33168PFM	L2+ managed industrial PoE switch with 8*10/100/1000M RJ45 ports and 8*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
ONV-IPS33168PFM-4GF	L2+ managed industrial PoE switch with 12*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
ONV-IPS36168PFM	L2+ managed industrial PoE switch with 12*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
ONV-IPS36248PFM-8G	L2+ managed industrial PoE switch with 20*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.

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